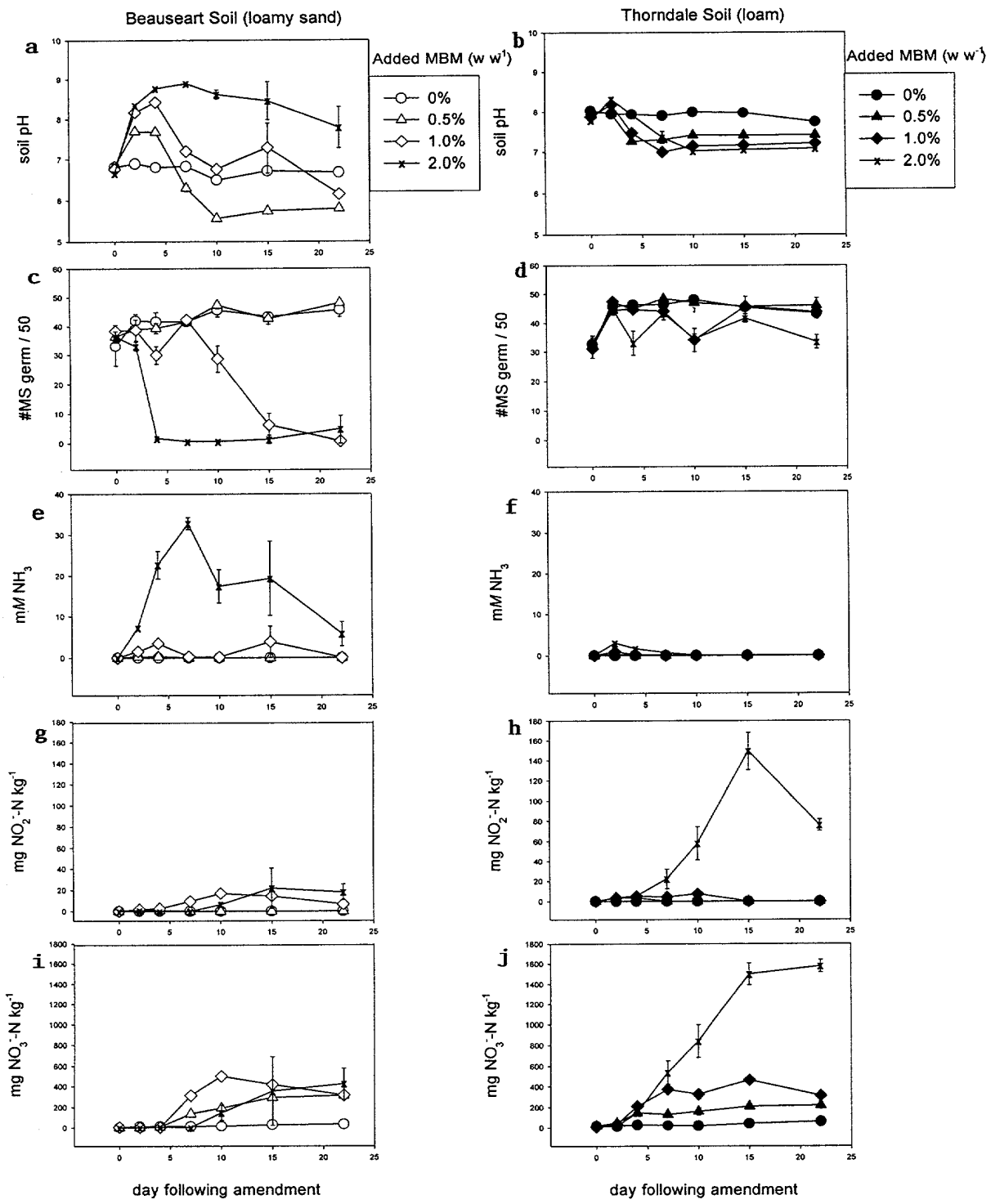

Fig. 1. Soil pH, # MS germinated out of 50 counted, NH_3 concentration in soil solution, N_2O and NO_3^- content in Beauseart and Thorndale soil amended with various rates of MBM (n=3; ±standard error).

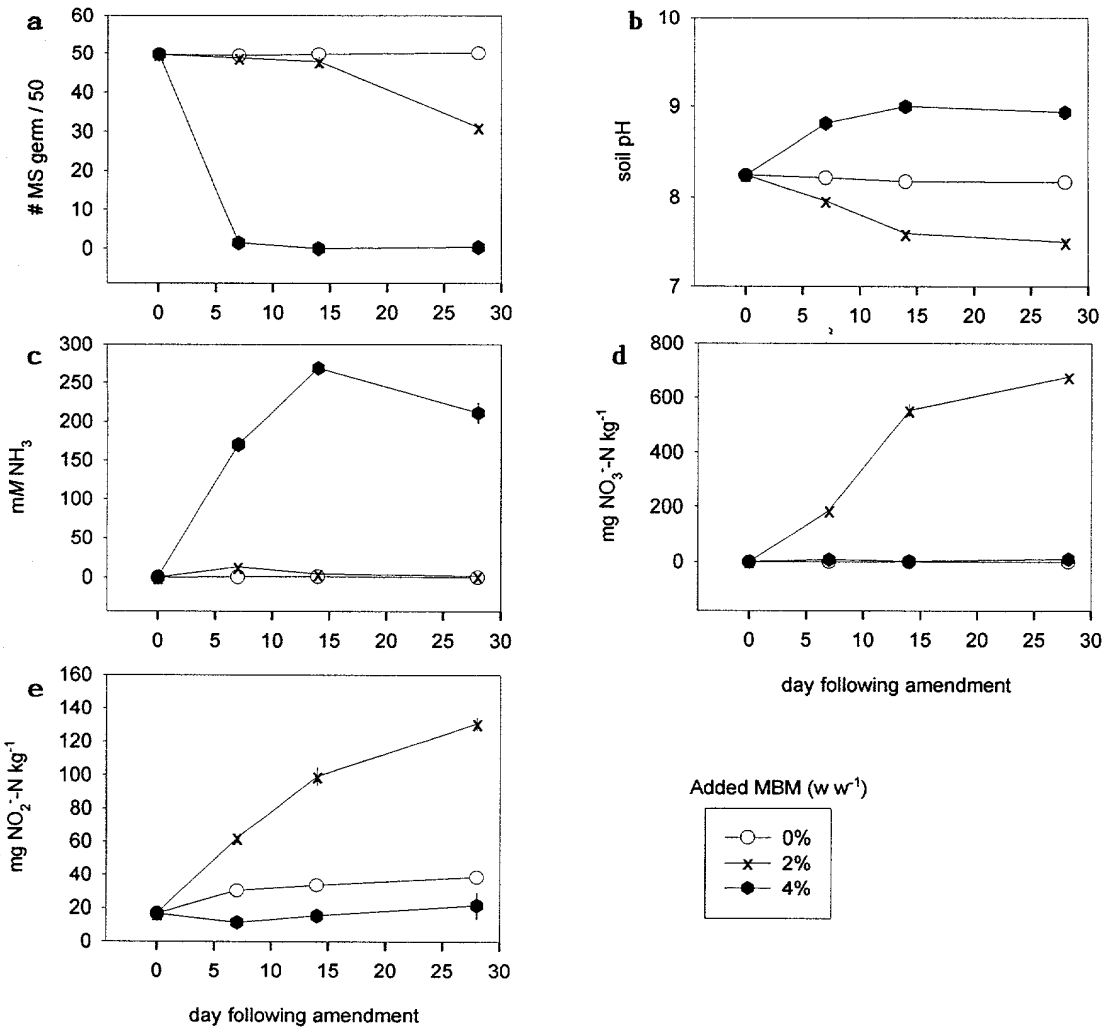

Fig. 2. Number MS germinated out of 50 counted, soil pH, NH_3 concentration in soil solution, NO_3^- and NO_2^- content of Thorndal soil amended with various rates of MBM (n=3; ±standard error).

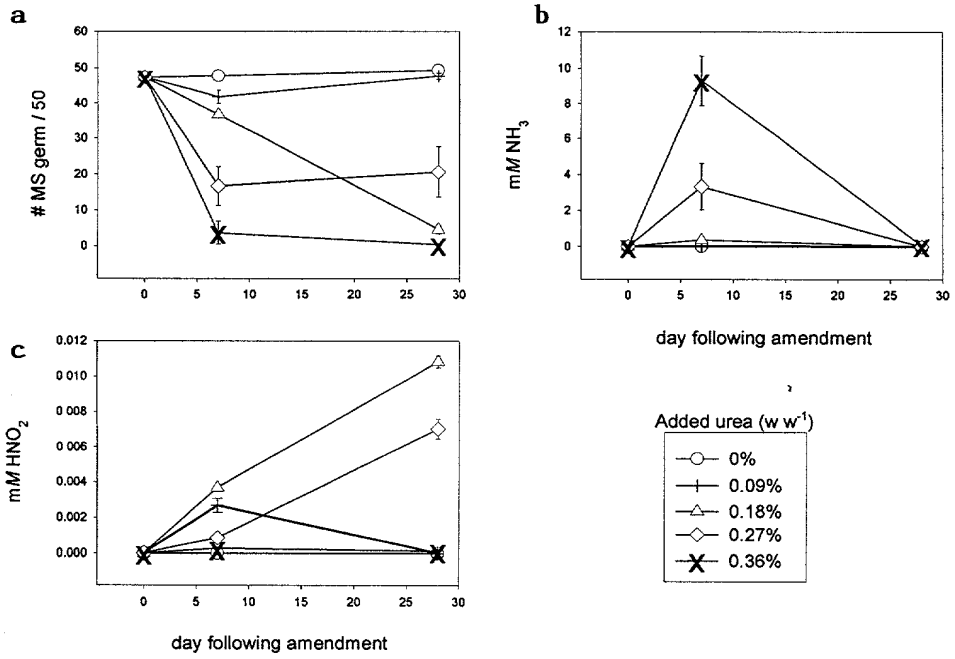

Fig. 3. Number MS germinated out of 50 counted, NH3 and HNO2 concentration in soil solution in Thorndale soil amended with various rates of urea (n=3; ±standard error).

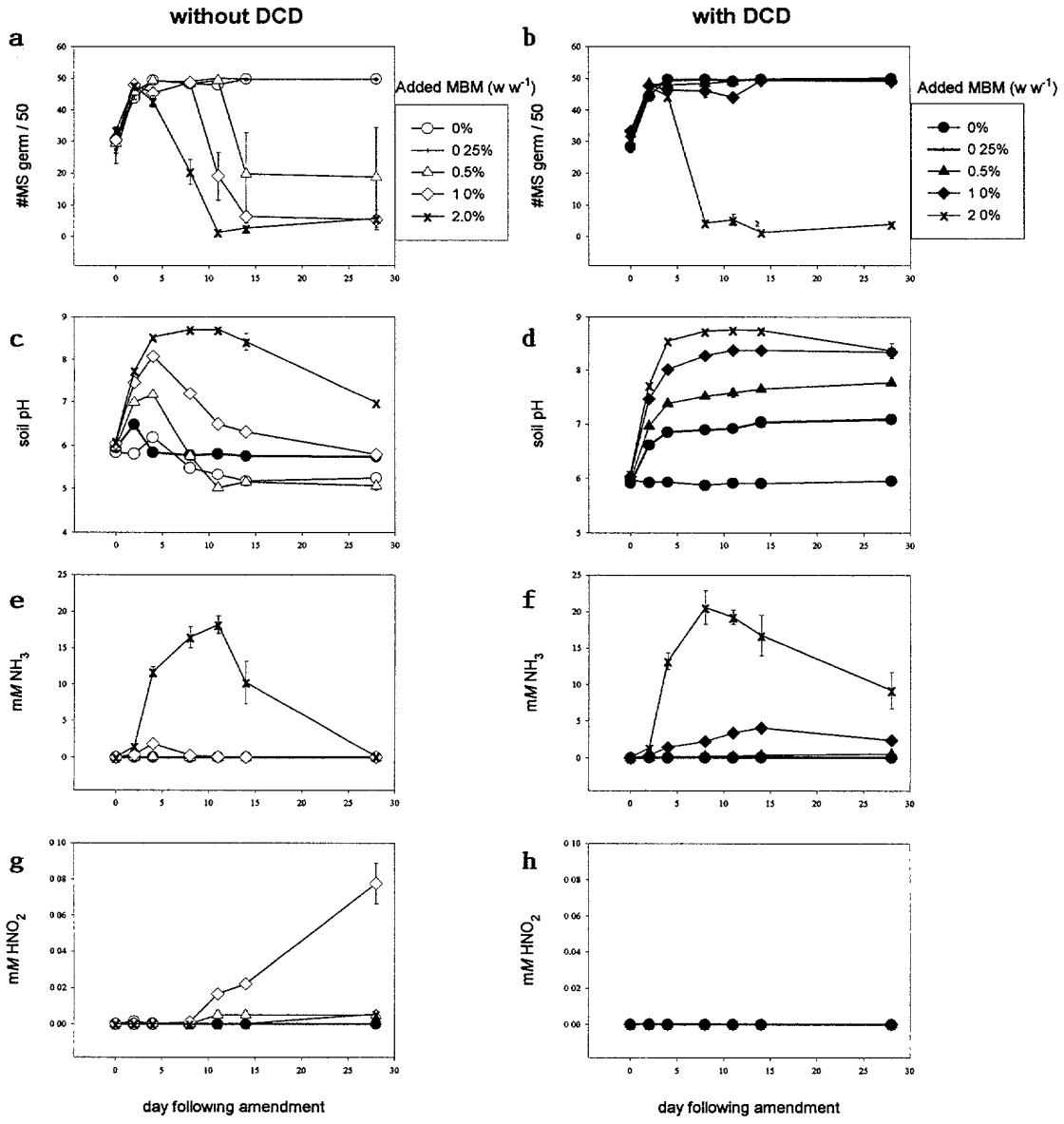

Fig. 4. Number MS germinated out of 50 counted, soil pH, NH_3 and HNO_2 concentration in soil solution in Beauseart soil (sandy loam) amended with various rates of MBM, with and without the nitrification inhibitor, dicyandiamide (DCD) added (n=3; ±standard error).

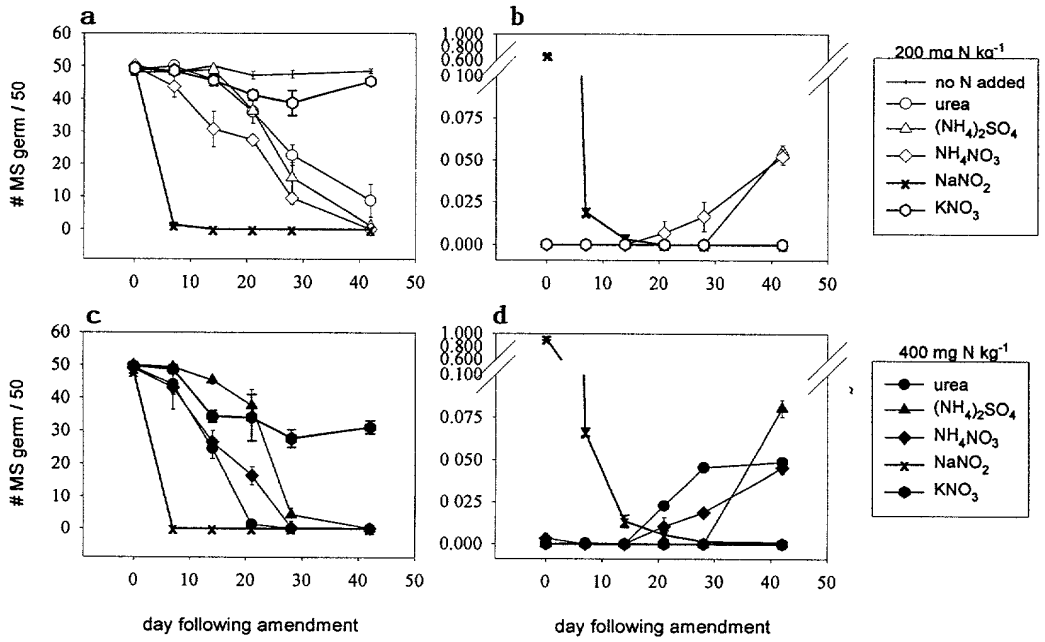

Fig. 5. Number of MS germinated out of 50 counted and HNO_2 concentration in soil solution of Beauseart soil amended with various fertilizer-N sources to 200 or 400 mg N kg^{-1} (n=3, ±standard error).

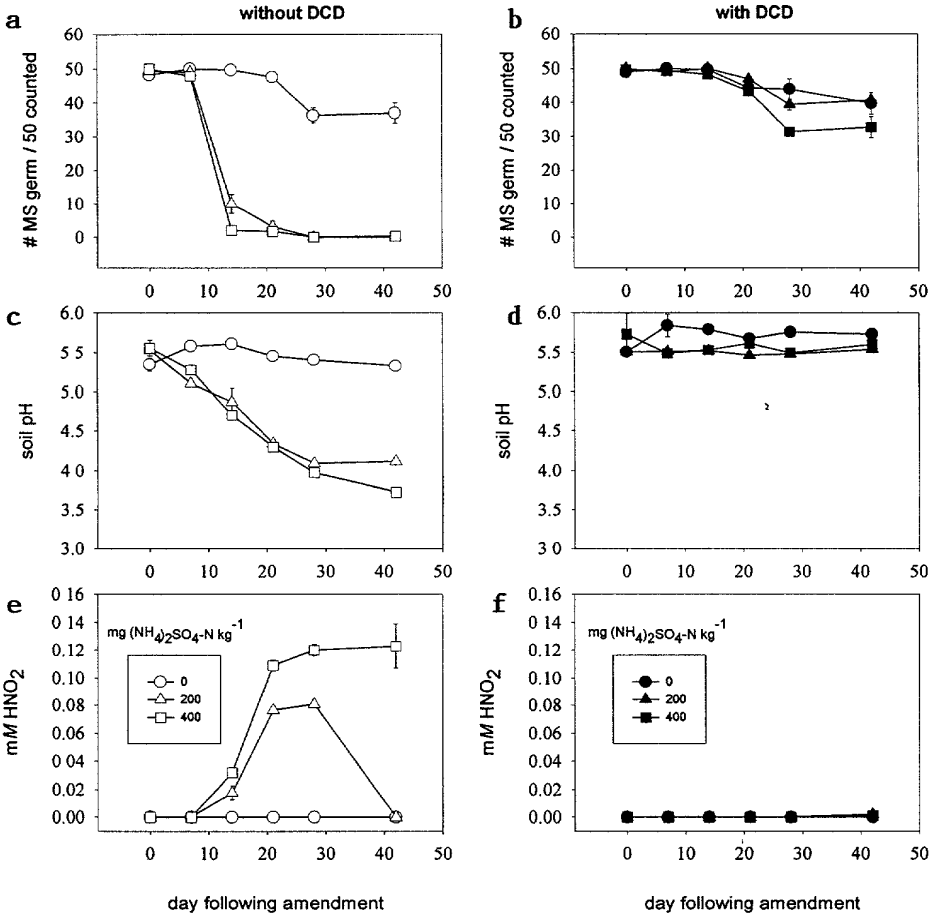

Fig. 6. Number of MS germinated out of 50 counted, soil pH and HNO_2 concentration in soil solution of Mackenzie soil amended with various amounts of $(NH_4)_2SO_4$, with and without the nitrification inhibitor, dicyandiamide (DCD) added (n=3; ±standard error).

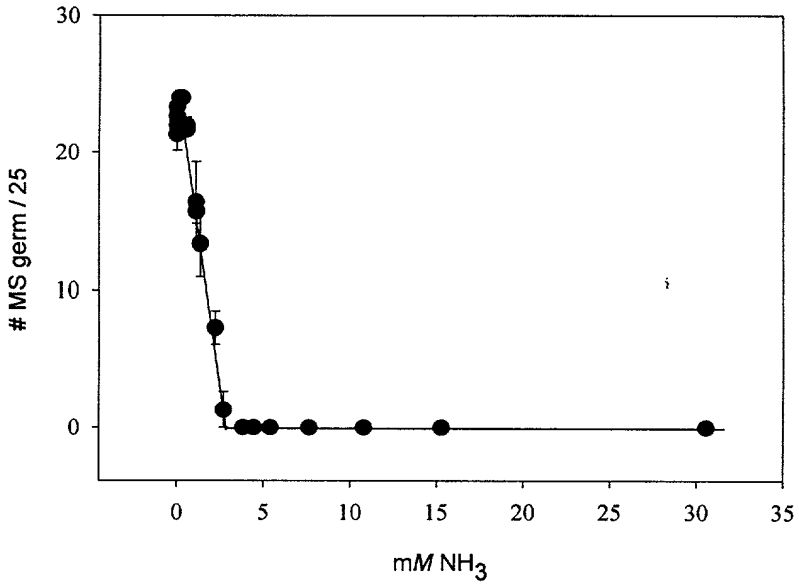

Fig. 7. Number of MS germinated out of 25 counted exposed for 2 weeks to various concentrations of NH_3 in solid medium (n=3; ±standard error).

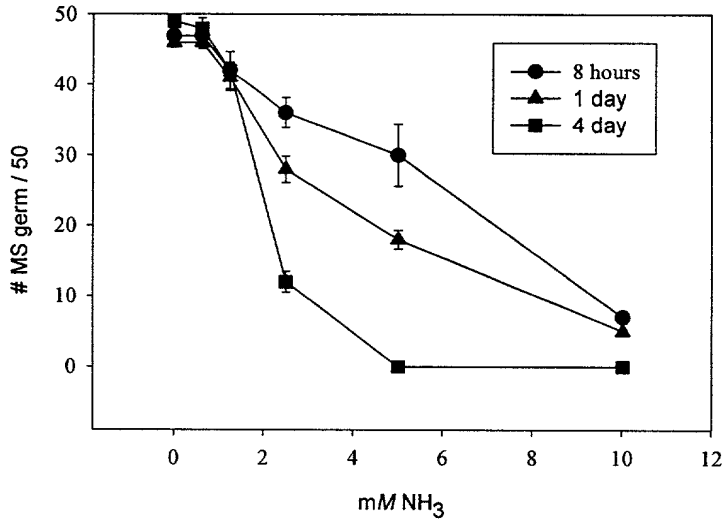

Fig. 8. Number of MS germinated out of 50 counted exposed for 8 h, 1 d and 4 d to various concentrations of NH_3 in glycine buffer at pH 8.6 (n=3; ±standard error).

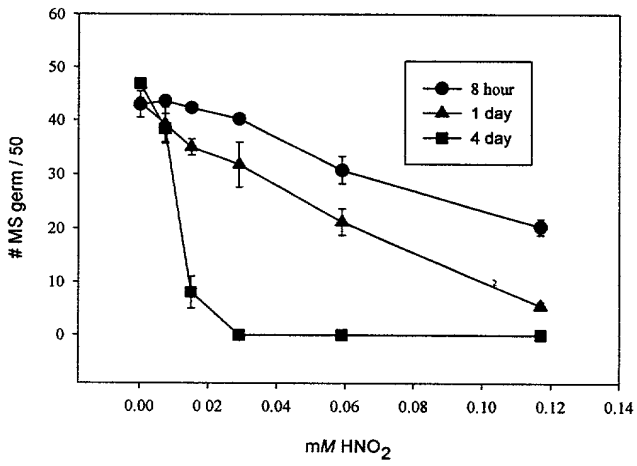

Fig. 9. Number of MS germinated out of 50 counted exposed for 8 h, 1 d and 4 d to various concentrations of HNO_2 in citric acid buffer at pH 5.0 (n=3; ±standard error).

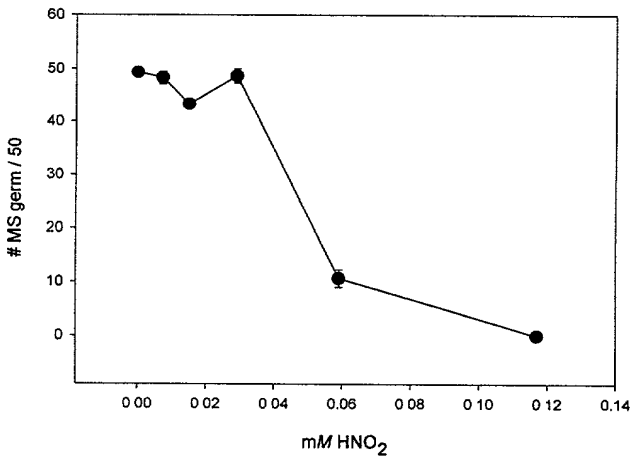

Fig. 10. Number of MS germinated out of 50 counted after suspension for 4 d to various concentrations of 30 mL HNO_2 citric acid buffer at pH 5.0 in a 250 mL sealer jar (n=3; ±standard error).

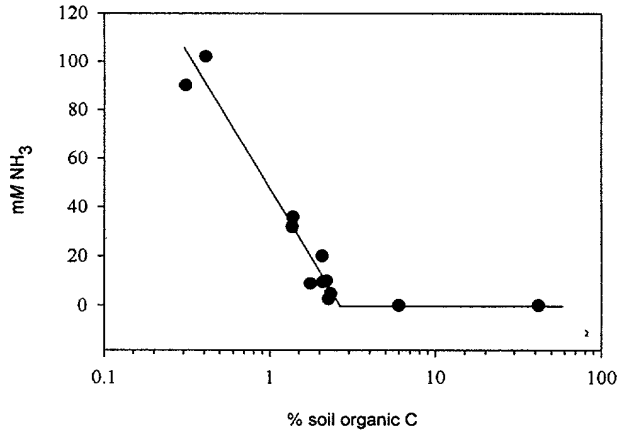

Fig. 11. Peak concentration of NH_3 in soil solution measured for 12 soils amended with 2% MBM (w w^{-1}) (n=3; ±standard error).

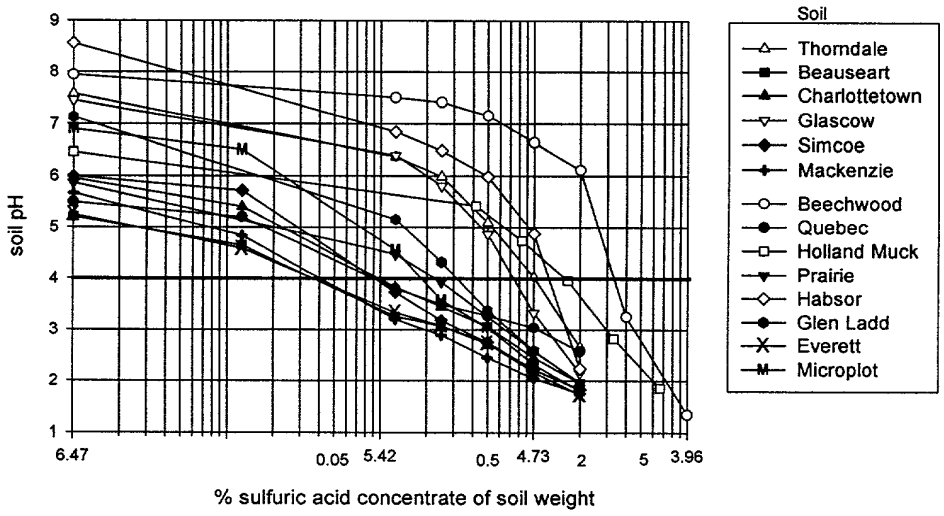

Fig. 12. Soil pH in response to addition of H_2SO_4. Soils in Group 1 are in filled symbols and Group 2 are in open symbols.

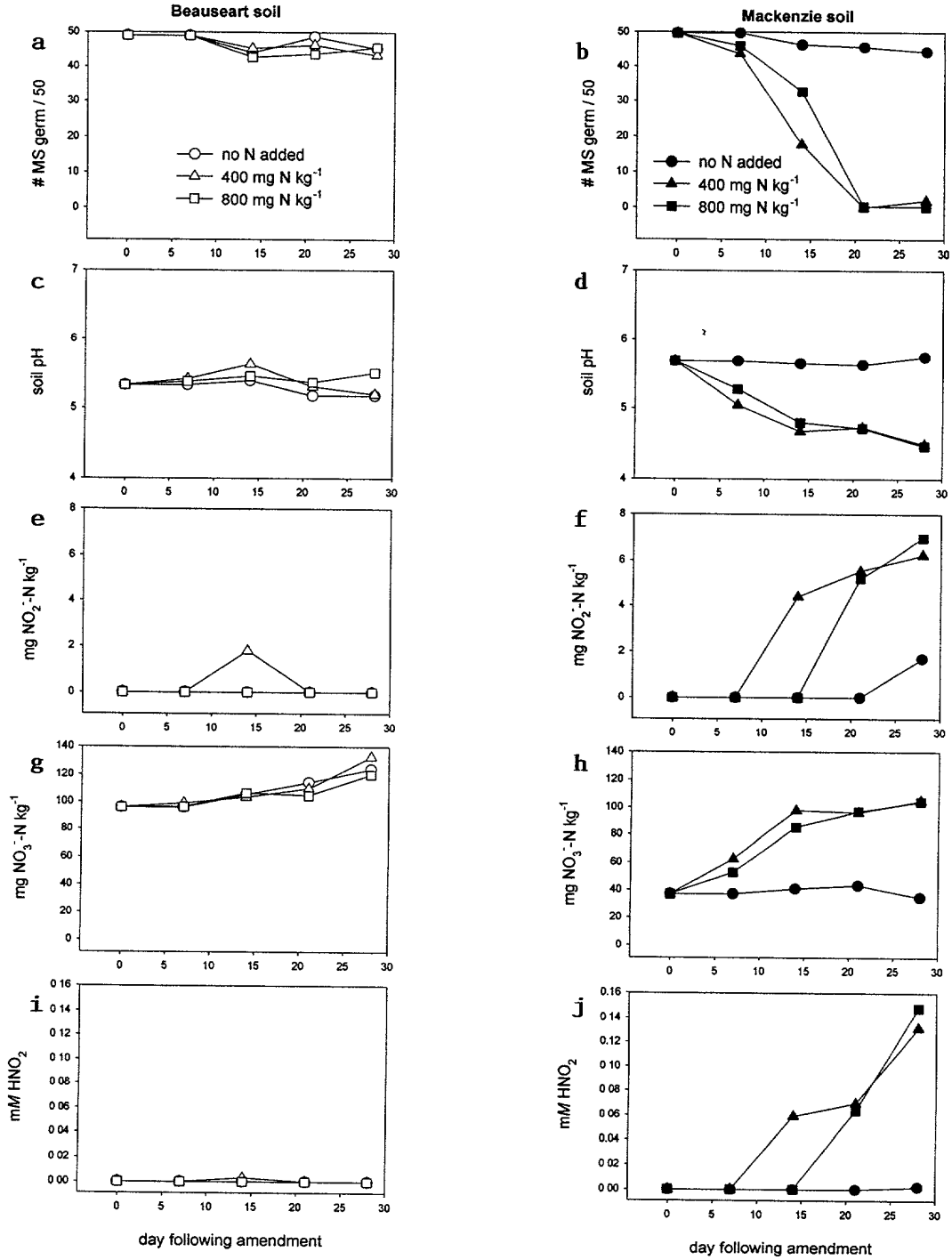

Fig. 13 Number of MS germinated out of 50 counted, soil pH, NO_2^- and NO_3^- content , and HNO_2 concentration in soil solution of Beauseart and Mackenzie soil amended with $(NH_4)_2SO_4$ to 200 or 400 mg N kg^{-1} (n=3).

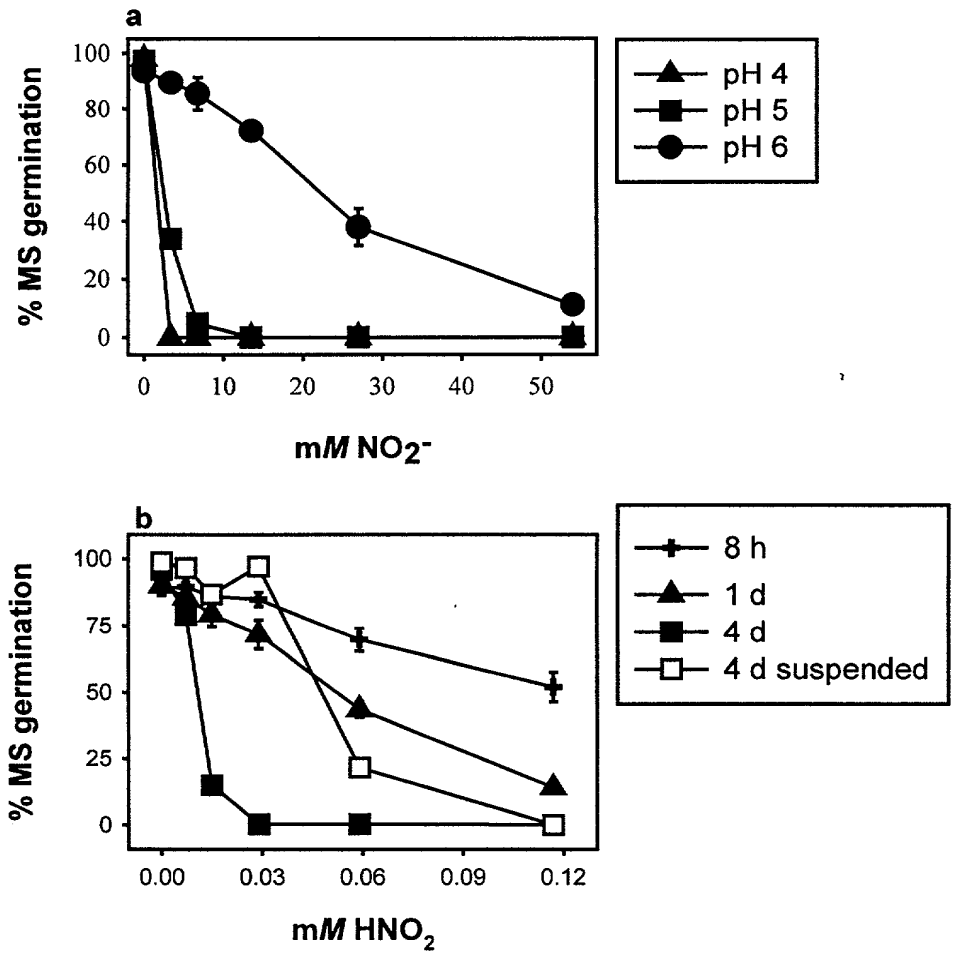

Fig. 14. Germination of *V. dahliae* MS after submergence in a 0.02 *M* citric acid buffered solution for a) 1 d exposure to various concentrations of NO_2^- at a solution pH of 4, 5 or 6 and b) 8 h, 1 and 4 d exposure in, or suspended above for 4 d a solution of pH 5 containing various levels of HNO_2. The concentration of HNO_2 was estimated based on the concentration of $NaNO_2$ and pH of the solution. Means (±1 se) of six replicates are shown.

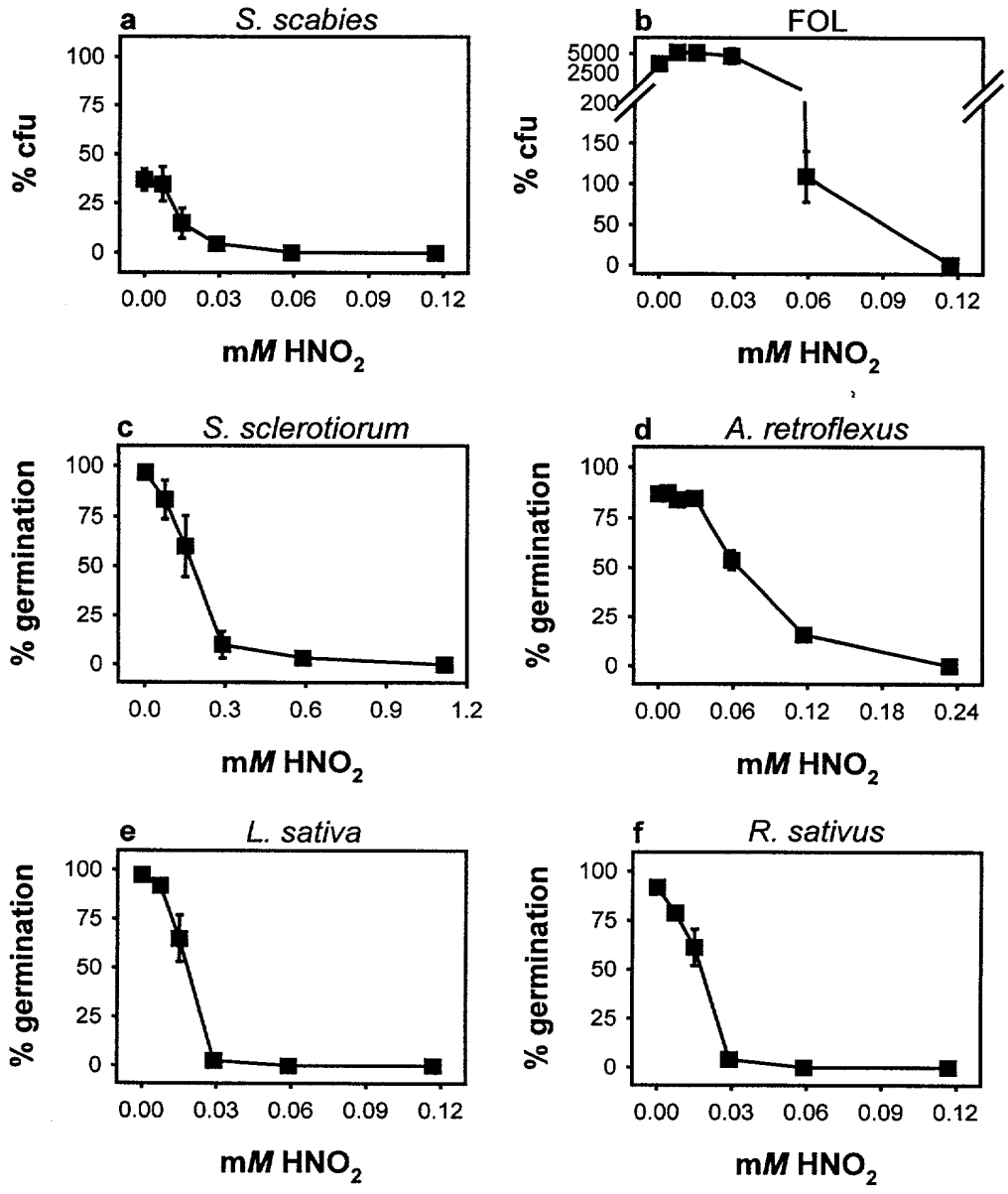

Fig. 15. Percent colony forming units (cfu) of a) spores of *Streptomyces scabies*, and b) chlamydospores of FOL, and germination of c) sclerotia of *Sclerotinia sclerotiorum*, and seeds of d) *A. retroflexus*, e) *Latuca sativa* and f) *Raphnus sativus* after submergence for 8 h, 1 and 4 d in 0.02 *M* citric acid buffered solutions (pH 5.0) containing various levels of HNO_2. The concentration of HNO_2 was estimated based on the concentration of $NaNO_2$ and pH of the solution. Means (±1 se) of six replicates are shown.

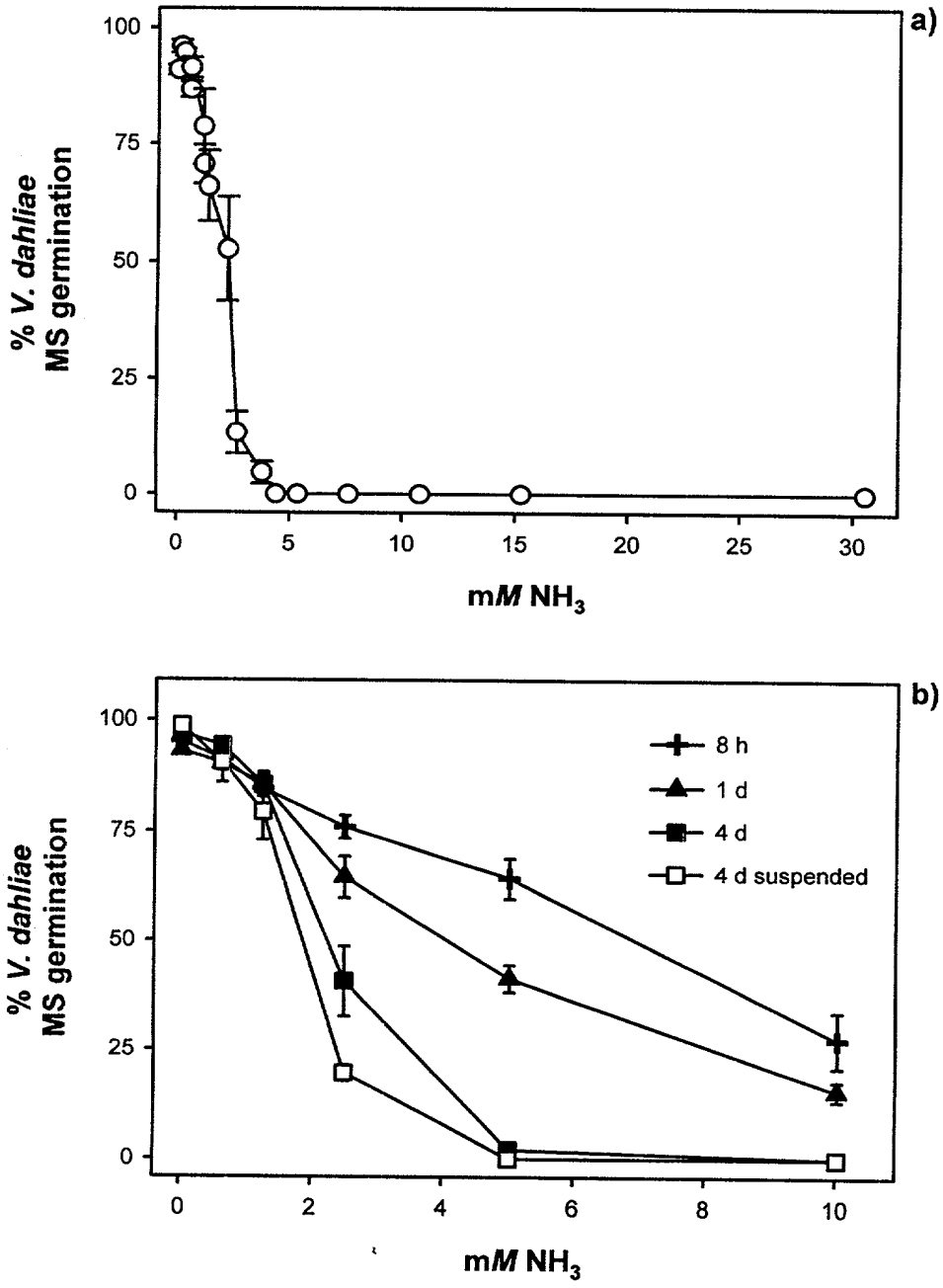

Fig. 16(a), (b)

Germination of *V. dahliae* MS after a) two weeks on soil-pectate-medium (SPT) containing various levels of NH_3 and b) submergence for 8 h, 1 and 4 d in, or suspended above for 4 d a 0.05 *M* glycine buffered solution (of pH 8.6) containing various levels of NH_3. The concentration of NH_3 was estimated based on the concentration of NH_4Cl and pH of the medium or solution. Means (±1 se) of six replicates are shown.

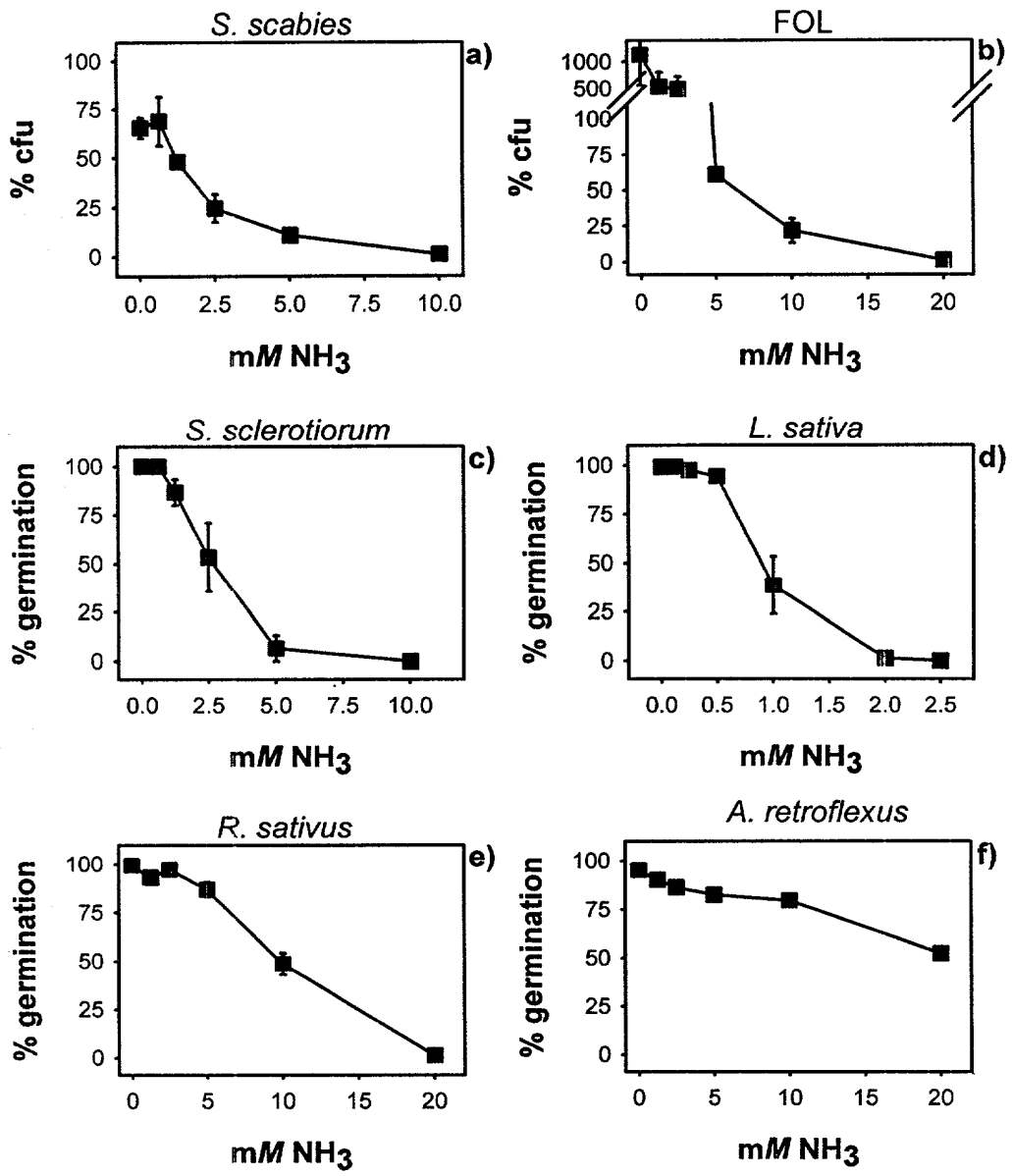

Fig. 16(c)

Colony forming units (cfu) of a) spores of *Streptomyces scabies*, and b) chlamydospores of FOL, and germination of c) sclerotia of *Sclerotinia sclerotiorum*, and seeds of d) *Latuca sativa* and e) *Raphnus sativus* after submergence for 8 h, 1 and 4 d in 0.05 *M* glycine buffered solutions (of pH 8.6) containing various levels of NH_3. The concentration of NH_3 was estimated based on the concentration of NH_4Cl and pH of the solution. Means (±1 se) of six replicates are shown.

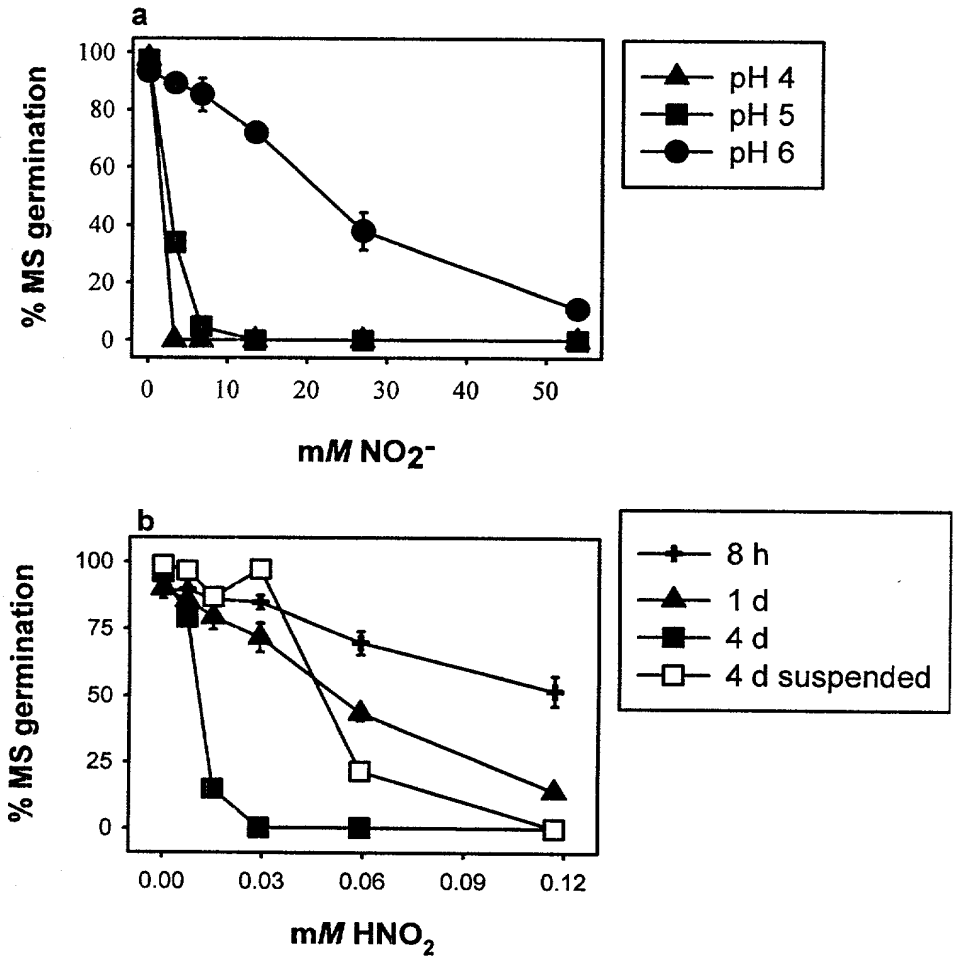

Fig. 17 (a), (b)

Germination of *V. dahliae* MS after submergence in a 0.02 *M* citric acid buffered solution for a) 1 d exposure to various concentrations of NO_2^- at a solution pH of 4, 5 or 6 and b) 8 h, 1 and 4 d exposure in, or suspended above for 4 d a solution of pH 5 containing various levels of HNO_2. The concentration of HNO_2 was estimated based on the concentration of $NaNO_2$ and pH of the solution. Means (±1 se) of six replicates are shown.

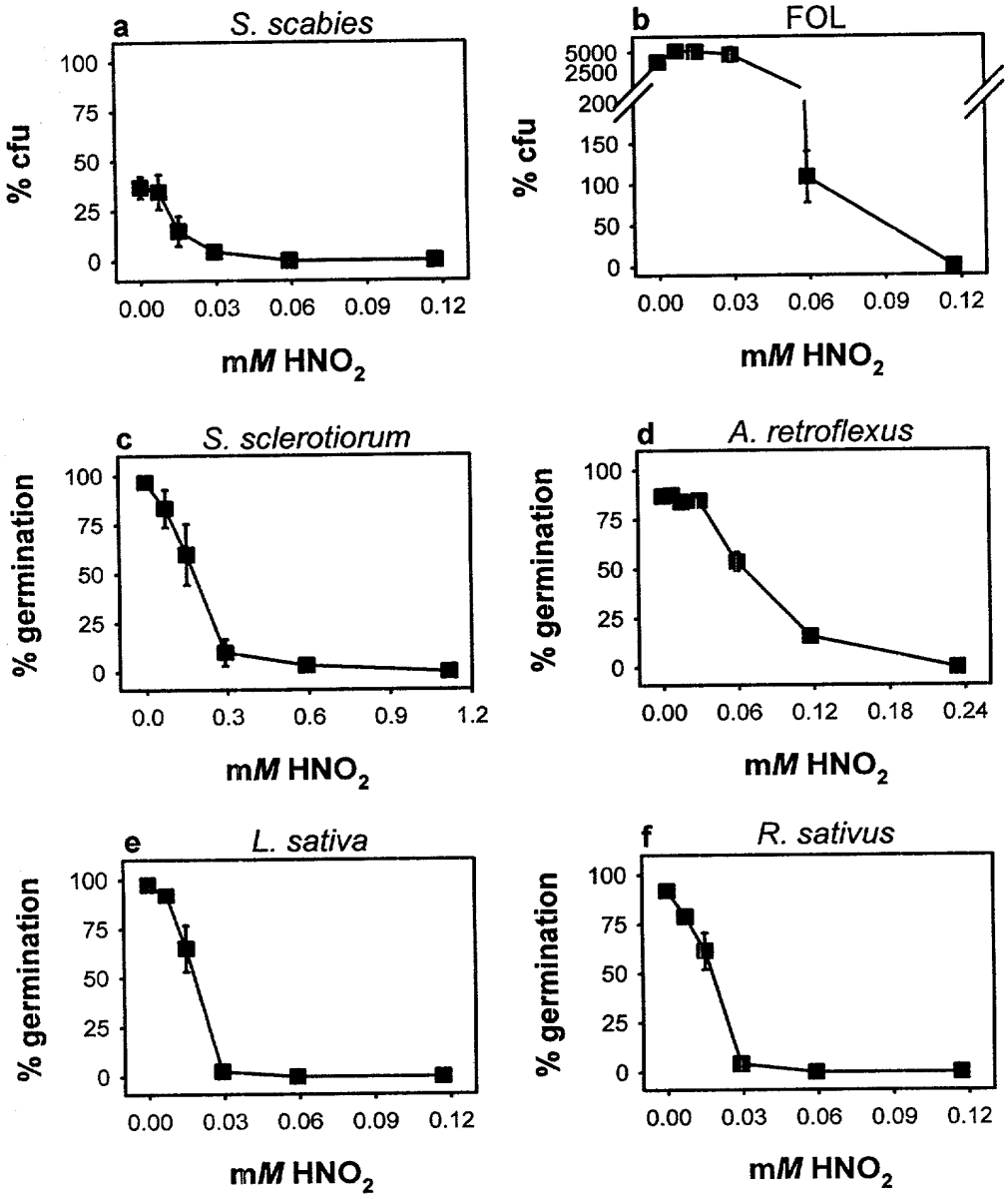

Fig. 17(c)

Percent colony forming units (cfu) of a) spores of *Streptomyces scabies*, and b) chlamydospores of FOL, and germination of c) sclerotia of *Sclerotinia sclerotiorum*, and seeds of d) *A. retroflexus*, e) *Latuca sativa* and f) *Raphnus sativus* after submergence for 8 h, 1 and 4 d in 0.02 *M* citric acid buffered solutions (pH 5.0) containing various levels of HNO_2. The concentration of HNO_2 was estimated based on the concentration of $NaNO_2$ and pH of the solution. Means (±1 se) of six replicates are shown.